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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,103	10/04/2003	David J. Danitz	06-473-2	2233

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EXAMINER	
NGUYEN, TUAN VAN	
ART UNIT	**PAPER NUMBER**
3731	

MAIL DATE	DELIVERY MODE
02/06/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/679,103	DANITZ ET AL.	
	Examiner	Art Unit	
	TUAN V. NGUYEN	3731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *50-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *50-62 and 64-68* is/are rejected.

7)☒ Claim(s) *63* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 50-68 are pending in this application. Claims 50-68 were examined and rejected in previous Office Action.

Reopening of Prosecution After Appeal

2. In view of the appeal brief filed on September 18, 2008, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below:

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

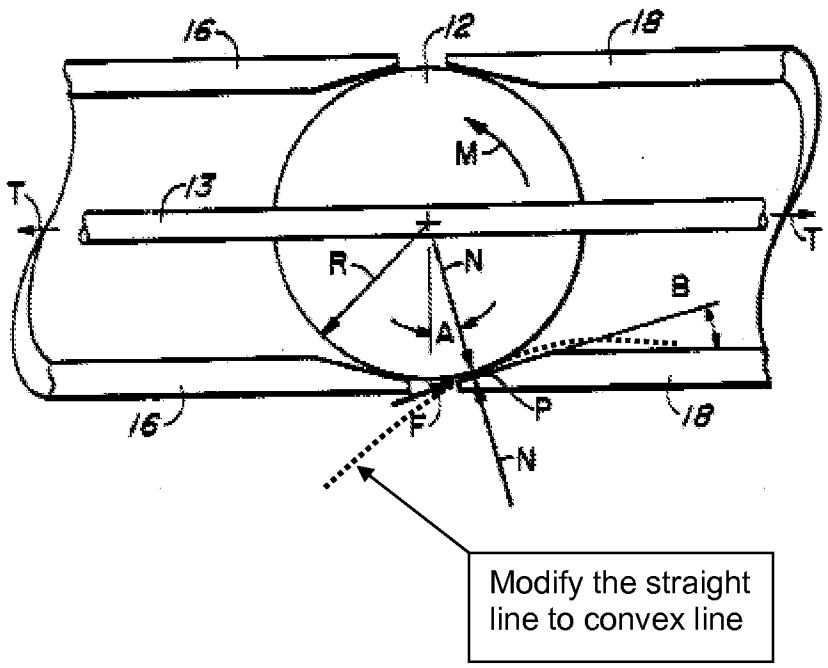
Response to Applicant's Arguments

3. Applicant's arguments filed on September 18, 2008 with respect to the rejection of claim 68 under 35 USC § 102 have been fully considered and persuasive. Madocks reference fails to disclose the surface of each of the second beads has a convex shape at the line of contact.

4. Applicant argues that Madocks fails to disclose plurality of alternating first beads and second beads because the plurality of socket as discloses by Madocks is not equivalent to the plurality of beads as claimed by the applicant is incorrect. According to Merriam-Webster dictionary, a bead is defined as a small piece of material pierced for threading on a string or wire, thus, a bead can have a ball-shaped body or cylindrical-shaped body. Tilleman (US 2,677,901) discloses bead that has cylindrical-shaped body (Fig. 1, reference number 18, 21, 23, 25, 27; col. 1, lines 47-50; and col. 3, lines 55-60).

5. Applicant argues that modify the flat surface of the socket member 18 of Madocks reference to a convex surface is not a matter of design choice nor is it a matter of obvious design choice is incorrect. Figure 1, reproduced below this paragraph, of Madock's drawings clearly discloses that in 2-dimension the contact between first beads 12 and second beads 16, 18 is **a line of contact** at the tangent points indicated at "P" (see col. 2, lines 20-35 and col. 5, line 45). According to Figure 1, changing the magnitude of angle B (angle B equal to angle a) will change the location of contact point "P", thereby, changing the stiffness of the joint (see col. 3, lines 35-45), thus, changing the magnitude of angle B will not change the design

intended of Madocks device, which is the contact between first beads 12 and second beads 16, 18 is **a line of contact.** In conclusion, it would have been obvious to one of ordinary skill in the art to design the contact surface of the socket 18 as shown in Fig. 1 of Madocks reference from a straight line to a convex line because the convex line, as same as a straight line, provides **a line of contact** between the ball 12 and socket 18, thereby, the design intended of Madocks device still be preserved because it has been held that simple substitution of one known element for another to obtain predictable results is old and well known in the art.



Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. **Claims 50-60 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madocks et al (U.S. 4,949,927) in view of Madocks et al.**

9. Referring to **claims 50-52, 55-57, 60 and 68**, Madocks et al show (see Figs. 1 and 2) an articulate column, that is capable for use as a shaft with a surgical clamp device, comprises alternating first beads 12 and second beads 16, 18. The second beads 16, 18 have a larger inner diameter than the first beads and each of the second beads is supported on the outer surface of the first beads 12 wherein the second beads 16, 18 contact adjacent first beads 12 along the bevel angle B, thus the contact between first beads 12 and second beads 16, 18 is a line of contact

(see col. 2, lines 20-35 and col. 5, line 45). Madocks also discloses that varying the bevel angle B of each socket or second beads, the stiffness of each joint can be controlled because the frictional force between the first beads 12 and second beads 16, 18 depended in value of the bevel angle, thus the stiffness of the column can be controlled (see col.2, lines 23-30 and col. 5, lines 45-50).

10. Still referring to **claims 50-52, 55-57, 60 and 68,** Madocks discloses that the contact between first beads and the second beads is a line contact and the stiffness of the column or shaft can be control by the bevel angle B. However, Madocks does not specifically disclose the bevel surface of the socket or second beads is a convex surface. Figure 1, reproduced below paragraph 5, of Madock's drawings clearly discloses that in 2-dimension the contact between first beads 12 and second beads 16, 18 is **a line of contact** at the tangent points indicated at "P" (see col. 2, lines 20-35 and col. 5, line 45). According to Figure 1, changing the magnitude of angle B (angle B equal to angle a) will change the location of contact point "P", thereby, changing the stiffness of the joint (see col. 3, lines 35-45), thus, changing the magnitude of angle B will not change the design intended of Madocks device, which is the contact between first beads 12 and second beads 16, 18 is **a line of contact.** In conclusion, it would have been obvious to one of ordinary skill in the art to design the contact surface of the socket 18 as shown in Fig. 1 of Madocks reference from a straight line to a convex line because convex line, as same as straight line, provides **a line of contact** between the ball 12 and socket 18, thereby, the design intended of Madocks device still be preserved

because it has been held that simple substitution of one known element for another to obtain predictable results is old and well known in the art.

11. As to the recitation that the shaft is for use with a clamp device, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

12. Referring to **claims 53, 54, 58, and 59**, Madocks does not show the second beads has a smaller outer diameter than each of the first beads or has the same outer diameter as each of the first beads. It would have been an obvious matter of design choice to one of ordinary skill in the art to design an outer diameter of the second beads smaller than the first beads or same with each of the first bead since such a design does not solve any stated problem.

13. **Claims 61, 62, and 64-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosgrove, III et al (U.S. 6,139,563) and further in view of Madocks et al (U.S. 4,9497,927).**

14. Referring to **claims 61, 62, 64 and 67**, Cosgrove III et al show a clamp comprising a handle assembly 12, a gripping assembly 16 having a pair of jaws 48 and a shaft assembly 14. The shaft assembly has a flexible shaft, wherein the shaft having a proximal end coupled to the handle assembly and a distal end coupled to the gripping assembly. The flexible shaft defines a bore and comprises a plurality of beads 38. A cable 31 extends through the bore and has a proximal end coupled to

the handle assembly and a distal end coupled to the gripping assembly. Cosgrove, III et al do not show the beads comprising alternating first and second beads wherein the second beads have a larger inner diameter than the first beads and each of the second beads is supported on the surface of the two adjacent beads at a line of contact and each of the second beads has a convex shape at the line of contact. As already established in the rejection of claims 50-60 and 68 above, Madocks et al show (see Figs. 1 and 2) an articulate column, that is capable for use with a clamp device, having a shaft assembly comprising an articulate column. The articulate column comprises alternating first beads 12 and second beads 16, 18. The second beads 16, 18 have a larger inner diameter than the first beads and each of the second beads is supported on the outer surface of the first beads 12 wherein the second beads 16, 18 contact adjacent first beads 12 along the bevel angle B or, thus the contact is a circular line of contact (see col. 2, lines 20-35 and col. 5, line 45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the bead formation of Cosgrove, III et al with the modified bead formation taught by Madocks, because this will provide a greater range of stiffness along the length of the shaft as suggested by Madocks.

15. Referring to **claims 65 and 66**, Madocks nor Cosgrovel do not show the second beads has a smaller outer diameter than each of the first beads or has the same outer diameter as each of the first beads. It would have been an obvious design choice to one of ordinary skill in the art to design an outer diameter of the second

beads smaller than the first beads or same with each of the first bead since such a design does not solve any stated problem.

Allowable Subject Matter

16. Claim 63 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUAN V. NGUYEN whose telephone number is (571)272-5962. The examiner can normally be reached on M-F: 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AnhTuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/T. V. N./
Examiner, Art Unit 3731

/Anhtuan T. Nguyen/
Supervisory Patent Examiner, Art Unit 3731